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One Cheer for Credit Rating Agencies: How the Mark-to-Market Accounting Debate Highlights the Case for Rating-Dependent Capital Regulation

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**ONE CHEER FOR CREDIT RATING AGENCIES: HOW THE MARK-TO-MARKET
ACCOUNTING DEBATE HIGHLIGHTS THE CASE FOR RATING-DEPENDENT
CAPITAL REGULATION**

JOHN PATRICK HUNT^{*}

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I. INTRODUCTION

Commentators on the financial and economic crisis of 2007–2008 have blamed “mark-to-market accounting” for much of the crisis; indeed, one estimate is that simply relaxing accounting rules on how companies report their finances to the public could cure “70% of the problem.”¹ The basic argument is that asset price declines force leveraged entities to sell assets to raise capital and that these sales push down prices further, forcing more sales and creating a “downward spiral.”² The push against mark-to-market accounting led to political pressure on the United States Securities and Exchange Commission (SEC) to revisit these rules.³ This Article argues that mark-to-market accounting critics did not make their case: the accounting rules they criticize are neither as inflexible nor as significant as they suggest.⁴ The accounting rules did not rigidly require firms to mark to market, and regulations did not “force” selling as a result of mark-to-market declines.⁵ A review of important failures in the crisis suggests that none of the firms that collapsed or nearly collapsed did so because of reporting poor accounting results in their financial statements.⁶ The SEC staff recently reached similar conclusions, and it appears that the agency will not suspend the mark-to-market regime or make sweeping changes to it.⁷

Although the attack on mark-to-market accounting is not persuasive and may not even be very interesting on its own, it does provide a useful perspective for examining the role of credit rating agencies in substantive financial regulation, specifically capital regulation. Financial firms are subject to capital

1. See Newt Gingrich, *Suspend Mark-to-Market Now!*, FORBES.COM, Sept. 29, 2008, http://www.forbes.com/2008/09/29/mark-to-market-oped-cx_ng_0929gingrich.html (citing BRIAN S. WESBURY & ROBERT STEIN, MARK-TO-MARKET MAYHEM 2 (2008)), http://www.ftportfolios.com/Commentary/EconomicResearch/2008/9/25/mark-to-market_mayhem (stating that mark-to-market accounting has caused 70% of the financial crisis without elaborating on the basis for this quantitative conclusion)); see also William M. Isaac, *How to Save the Financial System*, WALL ST. J., Sept. 19, 2008, at A23 (stating that mark-to-market accounting is the “biggest culprit” in the financial crisis).

2. Gary Gorton, *The Panic of 2007*, at 65 (Yale Int’l Cen. for Fin., Working Paper No. 08-24, 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1255362#; Gingrich, *supra* note 1; Peter J. Wallison, *Fair Value Accounting: A Critique*, 2008 AM. ENTERPRISE INST. FOR PUB. POL’Y RES. 3–4, http://www.aei.org/docLib/20080728_23336JulyFSOg.pdf.

3. See discussion *infra* Part II.B.

4. See discussion *infra* Part II.C.

5. See discussion *infra* Part II.C.

6. See discussion *infra* Part II.C.3.

7. See SEC STAFF, REPORT AND RECOMMENDATIONS PURSUANT TO SECTION 133 OF THE EMERGENCY ECONOMIC STABILIZATION ACT OF 2008: STUDY ON MARK-TO-MARKET ACCOUNTING 97, 201 (2008), available at <http://www.sec.gov/news/studies/2008/marktomarket123008.pdf> [hereinafter SEC STAFF MARK-TO-MARKET REPORT].

rules that require them to maintain “cushions” so that they remain solvent if conditions turn against the firm.⁸ Both theory and experience support such rules.

Capital rules incorporate measures of credit risk to reflect the fact that some debts are more likely to be repaid than others.⁹ The rules usually allow a firm that is subject to capital regulation to hold a smaller quantity of capital if its assets are of high credit quality than if they are of low quality.¹⁰ Regulators often use ratings from credit rating agencies, such as Moody’s and Standard & Poor’s, as a guide to credit quality.¹¹ Commentators have widely criticized this practice, and one of the most cogent and thoughtful critics of rating agencies, Frank Partnoy, has argued that capital regulators should use “credit spreads”—essentially, market prices—instead of ratings.¹² We can call this suggestion “mark-to-market regulation.”

However, if capital regulators were to rely solely on market prices instead of credit ratings, the scenario presented by mark-to-market critics, unpersuasive under current rules, would be far more plausible. Panic-driven asset price declines would affect regulatory capital directly. To the extent that regulators sought to maintain stable capital cushions, they would have to require sales of capital to meet requirements in conditions of panic selling, and this could trigger further price declines and more forced selling. To the extent that capital regulation is going to persist and continue to rely on the quality of individual assets held by firms, market prices as reflected in credit spreads are a problematic alternative to credit ratings.

One way of thinking about the problems raised by mark-to-market regulation is to start from the premise (conventional in financial economics and risk management) that market prices for financial assets reflect a number of different risks, including both credit risk and liquidity risk, as well as investors’ willingness to bear each risk (risk aversion).¹³ Market prices thus do not directly tell us about any one risk, such as credit risk.¹⁴ If we want to incorporate a pure measure of credit risk into regulation, we need something beyond market prices. We need either a way of isolating credit risk from other factors affecting price,

8. Joseph Jude Norton, *Capital Adequacy Standards: A Legitimate Regulatory Concern for Prudential Supervision of Banking Activities?*, 49 OHIO ST. L.J. 1299, 1306 (1989).

9. See Camille M. Caesar, Note, *Capital-Based Regulation and U.S. Banking Reform*, 101 YALE L.J. 1525, 1530 n.36 (1992) (citing Gary Haberman, *Capital Requirements of Commercial and Investment Banks: Contrasts in Regulation*, FED. RES. BANK OF N.Y. Q. REV., Autumn 1987, at 1, 8) (“Credit risk considerations have dominated the evolution of capital standards in the United States because banks deal with customers with a range of financial strength . . .”).

10. See discussion *infra* Part III.B.

11. See discussion *infra* Part III.B.

12. See Frank Partnoy, *The Siskel and Ebert of Financial Markets?: Two Thumbs Down for the Credit Rating Agencies*, 77 WASH. U. L.Q. 619, 623–24 (1999).

13. See discussion *infra* Part III.D.

14. See discussion *infra* Part III.D.

or a way of measuring credit risk independently of market price, such as by analysis of a company's or instrument's expected performance under different scenarios. That means that we need an intellectual discipline of credit risk analysis so that there is in principle a role for some entity to perform the function currently performed by credit rating agencies in capital regulation.

This analysis raises the question, among others, whether we want a pure measure of credit risk for regulatory purposes. There is a good case for incorporating such a measure into any capital regulation regime that assesses risk on an asset-by-asset basis, as all capital regimes known to this author currently do.¹⁵ For example, current market values are not really relevant for financial assets that the firm can hold to maturity and will not have to sell.¹⁶ What is relevant for such assets is the likelihood that they will perform as promised—in other words, credit risk.

There is also a case for replacing asset-by-asset capital regulation with a system based on market assessments of the value and volatility of the firm's assets as measured by market values of its stock and debt, as the Financial Economists Roundtable (FER) has suggested.¹⁷ Such a system could avoid difficult judgments associated with an asset-by-asset system, such as the need to assess credit risk for each asset a firm owns, but it would have problems of its own. The prices of a firm's equity and debt are affected by market factors that are not directly relevant to its solvency.¹⁸

Although the case for eliminating credit ratings from regulation undoubtedly has some merit, the consequences for capital regulation of doing so have not been appreciated. This author would punctuate with a single cheer the debate that started with “[t]wo thumbs down.”¹⁹

II. MARK-TO-MARKET FINANCIAL ACCOUNTING IN THE 2007–2008 CRISIS

A. *Fair Value, or Mark-to-Market, Financial Accounting Rules*

Much commentary on mark-to-market (or, more properly, “fair value”) accounting rules obscures the rules' flexibility, history, and significance.

15. See discussion *infra* Part IV.A.

16. See discussion *infra* Part IV.A.

17. See FIN. ECONOMISTS ROUNDTABLE, STATEMENT ON REFORMING THE ROLE OF THE STATISTICAL RATINGS ORGANIZATIONS IN THE SECURITIZATION PROCESS 12–13 (2008), [http://fic.wharton.upenn.edu/fic/Policy page/FER12 1 08rev.pdf](http://fic.wharton.upenn.edu/fic/Policy%20page/FER12%20108rev.pdf) [hereinafter FER STATEMENT].

18. See discussion *infra* Part IV.B.

19. Partnoy, *supra* note 12, at 619.

Accordingly, it is appropriate to begin with a brief review of what the relevant rules—those governing accounting for financial assets²⁰—actually say.

The Financial Accounting Standards Board (FASB), which exercises authority delegated by the SEC to establish accounting rules for the financial statements of United States public companies,²¹ adopted *Statement of Financial Accounting Standards No. 115* (FAS 115) in May 1993, and the provisions of FAS 115 became “effective for fiscal years beginning after December 15, 1993.”²² FAS 115 establishes three categories of securities and three different types of accounting treatment as follows:

Debt securities that the enterprise has the positive intent and ability to hold to maturity are classified as *held-to-maturity securities* and reported at amortized cost.

Debt and equity securities that are bought and held principally for the purpose of selling them in the near term are classified as *trading securities* and reported at fair value, with unrealized gains and losses included in earnings.

Debt and equity securities not classified as either held-to-maturity securities or trading securities are classified as *available-for-sale securities* and reported at fair value, with unrealized gains and losses

20. The balance sheet must carry financial derivatives at fair value. ACCOUNTING FOR DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES, Statement of Fin. Accounting Standards No. 133 ¶ 17, at 9 (Fin. Accounting Standards Bd. 1998), *available at* <http://www.fasb.org/pdf/fas133.pdf>. However, changes in the value of derivatives that entities use to hedge other assets and liabilities affect equity only to the extent that the hedge is ineffective. *See id.* ¶ 22, at 16. Although changes in the fair value of derivatives that are held for speculation or that ineffectively hedge other instruments will affect equity, *see id.*, mark-to-market critics did not focus on this issue and the SEC did not find that it was a factor in the bank failures it reviewed. *See* SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 125–36. Fair value also enters into the accounting of nonfinancial assets such as property, plant, and equipment held for sale—which must be held at “the lower of its carrying amount or fair value less cost to sell.” ACCOUNTING FOR THE IMPAIRMENT OR DISPOSAL OF LONG-LIVED ASSETS, Statement of Fin. Accounting Standards No. 144 ¶ 34, at 12 (Fin. Accounting Standards Bd. 2001), *available at* <http://www.fasb.org/pdf/fas144.pdf>. The mark-to-market controversy did not focus on these rules, and they are not discussed further here.

21. *See* Wallison, *supra* note 2, at 4–5.

22. ACCOUNTING FOR CERTAIN INVESTMENTS IN DEBT AND EQUITY SECURITIES, Statement of Fin. Accounting Standards No. 115 ¶ 23, at 9 (Fin. Accounting Standards Bd. 1993) [hereinafter FAS 115], *available at* <http://www.fasb.org/pdf/fas115.pdf>.

excluded from earnings and reported in a separate component of shareholders' equity.²³

There are three critical points here. First, the accounting rules do not require companies to carry securities at fair value if the owner has the "positive intent and ability to hold [them] to maturity."²⁴ Second, these rules affect only how the securities' values are reported in financial statements.²⁵ Unless regulations directly incorporate values from financial accounting statements, the numbers have only the power that market participants give them. There is nothing in the accounting rules that requires forced selling. Third, the fair value framework has been in place for fifteen years,²⁶ a fact often missing from the contemporary debate.

The requirement to account for some financial assets at fair value has been in place for a long time, but there have been recent rules expanding the option to account for assets at fair value²⁷ and specifying how to measure fair value.²⁸ *Statement of Financial Accounting Standards No. 159* (FAS 159), adopted in 2007, permits issuers to choose to measure many assets and liabilities at fair value and to have changes in fair value affect income.²⁹ The election is made on an instrument-by-instrument basis and is irrevocable.³⁰ Mark-to-market critics did not focus on the expansion of issuers' choice to elect fair value accounting,

23. *Id.* at Summary. Securities that are "other-than-temporar[ily] impair[ed]" are taken out of the three-part framework and "written down to fair value." *Id.* ¶ 16, at 6–7. This does not appear to be a requirement to mark securities to market, as there is no requirement to recognize an impairment based solely on changes in market price. See EMERGING ISSUES TASK FORCE, FIN. ACCOUNTING STANDARDS BD., ISSUE NO. 99-20, RECOGNITION OF INTEREST INCOME AND IMPAIRMENT ON PURCHASED BENEFICIAL INTERESTS AND BENEFICIAL INTERESTS THAT CONTINUE TO BE HELD BY A TRANSFEROR IN SECURITIZED FINANCIAL ASSETS ¶ 12(b) (2006), available at <http://www.fasb.org/pdf/abs99-20.pdf> (requiring recognition of impairment of retained interest in securitizations based on "a holder's best estimate of cash flows that a market participant would use in determining the current fair value of the beneficial interest," not actual market prices); SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 30–31.

24. FAS 115, *supra* note 22, ¶ 7, at 3.

25. See *id.* ¶ 3, at 1.

26. See *id.* ¶ 23, at 9.

27. THE FAIR VALUE OPTION FOR FINANCIAL ASSETS AND FINANCIAL LIABILITIES, *Statement of Fin. Accounting Standards No. 159* ¶ 3, (Fin. Accounting Standards Bd. 2007) [hereinafter FAS 159], available at <http://www.fasb.org/pdf/fas159.pdf>.

28. FAIR VALUE MEASUREMENTS, *Statement of Fin. Accounting Standards No. 157* ¶ 5. (Fin. Accounting Standards Bd. 2006) [hereinafter FAS 157], available at <http://www.fasb.org/pdf/fas157.pdf>.

29. FAS 159, *supra* note 27, ¶ 3.

30. *Id.* ¶ 5. FAS 159 expanded on *Statement of Financial Accounting Standards No. 155*, which permitted issuers to choose to value instruments containing embedded derivatives at fair value, and *Statement of Financial Accounting Standards No. 156*, which did the same for servicing rights and liabilities. SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 29 & n.69.

although such an election led to significant recorded losses at IndyMac Federal Bank (IndyMac).³¹

Statement of Financial Accounting Standards No. 157 (FAS 157), adopted in September 2006, gives guidance on how to measure fair value.³² It has been more controversial.³³ FAS 157, which governs financial statements issued for fiscal years beginning after November 15, 2007,³⁴ clarifies the meaning of “fair value.” It provides that fair value “is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.”³⁵ FAS 157 also establishes a three-level hierarchy for fair values based on the reliability of the inputs that go into the fair value assessment.³⁶ The highest level, Level 1, is for “quoted [unadjusted] prices . . . in active markets for identical assets or liabilities.”³⁷ Level 2 inputs are inputs that are “observable” for the given asset or liability, such as “quoted prices for similar assets or liabilities in active markets.”³⁸ Level 3 inputs are “unobservable” inputs for the asset or liability, such as the reporting entity’s own data.³⁹ This category apparently includes value estimates generated by internal models.⁴⁰

Although the exact significance of the hierarchy is not entirely clear, as discussed below, FAS 157 provides that “[v]aluation techniques used to measure fair value shall maximize the use of observable inputs and minimize the use of unobservable inputs.”⁴¹ FAS 157 joins the rather vague injunction to “maximize” one and “minimize” the other with the unhelpful statement that “[u]nobservable inputs shall be used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity . . . at the measurement date.”⁴² That leaves open the question of what to do if observable inputs are available but require

31. SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 111, 123–25 (noting that IndyMac elected fair value accounting for loans held for sale, leading to large losses in 2008).

32. FAS 157, *supra* note 28, ¶ 1.

33. See, e.g., Andrew Ross Sorkin, *Are Bean Counters to Blame?*, N.Y. TIMES, July 1, 2008, at C1 (noting that some financial experts blame FAS 157 for “forcing . . . write-offs and wreaking havoc on the financial system”).

34. FAS 157, *supra* note 28, ¶ 36.

35. *Id.* ¶ 5.

36. *Id.* ¶ 22.

37. *Id.*

38. *Id.* ¶ 28.

39. *Id.* ¶ 30.

40. See *id.*

41. *Id.* ¶ 21.

42. *Id.* ¶ 30.

significant adjustment.⁴³ The obscurity deepens as we learn that the initial price at which a company purchases an asset represents its fair value “in many cases . . . but not presumptively.”⁴⁴

In March 2008, the SEC Division of Corporation Finance sent letters to the chief financial officers of publicly traded companies setting forth its interpretation of FAS 157. Somewhat ambiguously, the letter stated,

Fair value assumes the exchange of assets or liabilities in orderly transactions. Under SFAS 157, it is appropriate for you to consider actual market prices, or observable inputs, even when the market is less liquid than historical market volumes, unless those prices are the result of a forced liquidation or distress sale. Only when actual market prices, or relevant observable inputs, are not available is it appropriate for you to use unobservable inputs which reflect your assumptions of what market participants would use in pricing the asset or liability. Current market conditions may require you to use valuation models that require significant unobservable inputs for some of your assets and liabilities.⁴⁵

Given that the categories “observable” and “unobservable” exhaust the universe of possible inputs, the second and third sentences appear to be contradictory.⁴⁶ The SEC seems to mean that unobservable inputs are appropriate when, and only when, market prices result from “forced liquidation[s] or distress sale[s]” (where no other “relevant observable inputs” are available) and that under “[c]urrent market conditions” that circumstance might obtain.⁴⁷ However, the meaning is far from clear and the complaint of one mark-to-market critic that the March 2008 letter “gave no useful guidance whatsoever to companies or accountants about the effect of market conditions on asset values”⁴⁸ is understandable.

Although FAS 157 and the SEC’s March 2008 letter may reflect a combination of poor drafting, lack of understanding, and timidity on the part of their authors, these publications undermine the argument that fair value

43. The “Implementation Guidance” accompanying FAS 157 confirms the ambiguity. It provides that “[a]n adjustment to a Level 2 input that is significant to the fair value measurement in its entirety might render the measurement a Level 3 measurement, depending on the level in the fair value hierarchy within which the inputs used to determine the adjustment fall.” *Id.* ¶ A24.

44. *Id.* ¶ A26.

45. U.S. SEC. & EXCH. COMM’N, DIV. CORP. FIN., SAMPLE LETTER SENT TO PUBLIC COMPANIES OF MD&A DISCLOSURE REGARDING THE APPLICATION OF SFAS 157 (FAIR VALUE MEASUREMENTS) (2008), <http://www.sec.gov/divisions/corpfin/guidance/fairvalue/0308.htm> (containing an example of the letters sent to the chief financial officers).

46. *See id.*

47. *See id.*

48. Wallison, *supra* note 2, at 5.

accounting rules require marking to market under all circumstances, including those in which the market is illiquid and inactive.⁴⁹

B. The Attack on Mark-to-Market Accounting and Its Effects

Attacks on mark-to-market accounting have been appearing steadily since the beginning of the credit crisis in summer 2007, but criticisms accelerated sharply in August and September of 2008 as concerns about the solvency of important institutions deepened.⁵⁰ The basic idea underlying the attack on mark-to-market accounting is that when a market for a particular asset dries up—for any reason—that can trigger a “death spiral.”⁵¹ Gary Gorton’s widely referenced paper, *The Panic of 2007*, puts it this way:

Marking-to-market . . . has very real effects because regulatory capital and capital for rating agency purposes is based on [Generally Accepted Accounting Principles] (GAAP). . . . In the current situation, partly as a result of GAAP capital declines, banks are selling assets or are attempting to sell assets – billions of dollars of assets – to “clean up their balance sheets,” raising cash and delevering. This pushes down prices, and another round of marking down occurs, and so on.⁵²

The mark-to-market critics prescribed indefinite suspension or termination of mark-to-market accounting, at least for non-trading financial assets.⁵³

These efforts culminated in the provisions of the Emergency Economic Stabilization Act of 2008⁵⁴ (EESA), commonly known as the “bailout bill,” that

49. At least one critic of mark-to-market accounting acknowledges the flexibility in FAS 157 and blames the SEC staff’s interpretation of the standard and accountants’ aversion to liability risk for the overly rigid application of mark-to-market. See *id.* at 4–5. But that supports the clarification of fair value and mark-to-market rules, not the blanket termination (for available-for-sale assets) that Wallison advocates. See *id.* at 7.

50. See Steve H. Hanke & John A. Tatom, *Mark-to-Model, Into the Twilight Zone*, INVESTOR’S BUS. DAILY, Oct. 24, 2008 (“The recent failures of some financial firms have given new life to arguments against the use of market prices, or mark-to-market accounting.”).

51. See Gingrich, *supra* note 1.

52. Gorton, *supra* note 2, at 65; see also Gingrich, *supra* note 1 (discussing the “downward death spiral for financial companies large and small”); Wallison, *supra* note 2, at 3–4 (“A downward spiral developed and is still operating.”). Neither Gorton nor any of the other mark-to-market critics this author has reviewed provides any support for the assertion that “regulatory capital . . . is based on GAAP.” Gorton, *supra* note 2, at 65.

53. See Gingrich, *supra* note 1 (explaining that during suspension “[w]e can take the time to evaluate mark-to-market all over again”); Isaac, *supra* note 1 (arguing for complete termination of mark-to-market accounting for financial firms); Wallison, *supra* note 2, at 7 (advocating retention of mark-to-market for securities held for trading and valuation of securities available for sale at “the discounted value of their cash flows”).

directed the SEC to “conduct a study on mark-to-market accounting standards” under FAS 157 and report to Congress in 90 days,⁵⁵ and stated that the SEC “shall have the authority under the securities laws . . . to suspend . . . the application of” FAS 157 “for any issuer . . . or with respect to any class or category of transaction.”⁵⁶ The EESA’s provision authorizing the SEC to “suspend” mark-to-market is ironic because the agency already possesses authority to set accounting standards for public companies in the United States, and FAS 157’s fair value rules reflect the exercise of that power.⁵⁷ Congress “authorized” the agency to do what the agency already had power to do.

On September 30, 2008, as the offensive was going on, the SEC and FASB issued a clarification of the fair value accounting rules under FAS 157.⁵⁸ Critical points of the clarification are that “[w]hen an active market for a security does not exist” it is appropriate to “incorporate current market participant expectations of future cash flows” into valuation, and that this “can, in appropriate circumstances, include expected cash flows from an asset.”⁵⁹ “Furthermore, when significant adjustments are required to available observable inputs it may be appropriate to utilize an estimate based primarily on unobservable inputs.”⁶⁰ Similarly, “[b]roker quotes may be an input when measuring fair value, but are not necessarily determinative if an active market does not exist for the security.”⁶¹ Because “[t]he concept of a fair value measurement assumes an orderly transaction between market participants,” it follows that “[t]he results of disorderly transactions are not determinative when measuring fair value.”⁶² And “[t]ransactions in inactive markets may be inputs when measuring fair value, but would likely not be determinative.”⁶³

The SEC’s shift to a very liberal interpretation of FAS 157 seems both appropriate in light of the fact that market prices have been unavailable for many assets and sufficient to address legitimate concerns about fair value accounting’s contribution to the crisis. It also seems to mark the outer limit of

54. Pub. L. No. 110-343, 122 Stat. 3765 (to be codified at 12 U.S.C. § 5201 note).

55. *Id.* § 133(a), 122 Stat. at 3798 (to be codified at 12 U.S.C. § 5238).

56. *Id.* § 132(a), 122 Stat. at 3798 (to be codified at 12 U.S.C. § 5237).

57. *See, e.g.*, Commission Statement of Policy Reaffirming the Status of the FASB as a Designated Private-Sector Standard Setter, Release Nos. 33-8221, 34-47743, 80 SEC Docket 178 (Apr. 25, 2003).

58. Press Release, Sec. & Exch. Comm’n Office of the Chief Accountant and Fin. Accounting Standards Bd. Staff, Clarifications on Fair Value Accounting (Sept. 30, 2008), available at <http://www.sec.gov/news/press/2008/2008-234.htm> [hereinafter SEC Clarification].

59. *Id.*

60. *Id.*

61. *Id.*

62. *Id.*

63. *Id.*

the SEC's receptiveness to the attack on fair value accounting.⁶⁴ The SEC's staff report concluded that "[e]xisting fair value and mark-to-market requirements should not be suspended,"⁶⁵ although it does recommend improvements to accounting for impairments, further specification of when fair value should not mean mark-to-market, and further detail on how exactly to go about determining and explaining fair value in such circumstances.⁶⁶

C. *Mark-to-Market Accounting Critics Have Failed to Make Their Case*

1. *Accounting Rules Generally Do Not "Require" Marking to Market*

Many attacks on mark-to-market accounting assert or suggest the flatly incorrect proposition that marking to market is "required" for financial reporting of all or most financial assets.⁶⁷ In fact, as discussed above, the rules require fair value accounting only for securities that owners will not hold to maturity, derivatives, and assets deemed impaired.⁶⁸ For example, the rules do not require fair value accounting for unimpaired loans held to maturity—the most important asset for most banks. And fair value accounting does not necessarily require marking to market; the accounting rules provide a good deal of flexibility in determining fair value.

A more thoughtful critique states that financial institutions are induced to hold assets in the mark-to-market categories because of "restrictive rules on when an asset could be considered held to maturity" such as the exclusion from that category "if the asset might be sold to meet the company's need for liquidity or if there were changes in funding terms or currency risk."⁶⁹ Although

64. See, e.g., Kara Scannell, *Mark-to-Market Likely to Remain*, WALL ST. J., Dec. 8, 2008, at C2 (stating that the SEC is unlikely to make any more changes to fair value rules).

65. SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 7.

66. *Id.* at 8–10.

67. See, e.g., Gingrich, *supra* note 1 (stating that fair value accounting "means that companies must value the assets on their balance sheets based on the latest market indicators of the price that those assets could be sold for immediately"); Gorton, *supra* note 2, at 63–64 (stating that FAS 157 "requires that (most) positions be 'marked-to-market' under FASB 157").

68. See discussion *supra* Part II.A.

69. Wallison, *supra* note 2, at 2. Wallison is referring to the following provision in FAS 115:

An enterprise shall not classify a debt security as held-to-maturity if the enterprise has the intent to hold the security for only an indefinite period. Consequently, a debt security should not . . . be classified as held-to-maturity if the enterprise anticipates that the security would be available to be sold in response to: . . . [n]eeds for liquidity . . . [c]hanges in the availability of and the yield on alternative investments . . . [c]hanges in funding sources and terms . . . [or c]hanges in foreign currency risk.

FAS 115, *supra* note 22, ¶ 9, at 3–4.

that may be a reason firms chose to hold assets in the fair value categories, it is not a reason to abandon fair value accounting. If an enterprise must sell an asset to meet liquidity needs, the asset's value is its market price. It seems difficult to argue that mark-to-market accounting is inappropriate in this case.

2. *Market Marks Generally Are Not Binding and Do Not Require Forced Selling*

The attack on mark-to-market accounting seems to focus on commercial banks. After all, investment banks were required to mark to market for decades, and these institutions, funded by collateralized short-term lending, were in any event making it hard to argue that market prices were not true market prices. But commercial banking regulations generally do not require banks to sell assets to meet capital requirements just because market values decline. Although the capital that banks are required to hold for regulatory purposes is based on accounting capital, it differs in several respects. One such difference is that bank capital *excludes* any mark-to-market adjustments to the value of securities that are available for sale.⁷⁰ This is by far the most significant category of assets that regulations require financial institutions to hold at fair value.

3. *Accounting Losses Did Not Cause Any of the Major Firm Failures in the Crisis*

We can test the hypothesis that FASB's fair value accounting rules were a major cause of the financial crisis of 2007–2008 by reviewing the most spectacular failures, bailouts, and forced mergers during that period. If mark-to-market accounting rules truly accounted for 70% of the financial crisis because they triggered spirals of forced selling, we would expect to be able to trace at least some of the major firms' failures to pressure to sell assets to clean up their balance sheets for accounting purposes. But, in fact, financial firms failed because (a) trading partners believed that assets proffered to secure lending were too risky and thus refused to extend financing (investment banks);⁷¹ (b) trading partners demanded collateral to secure underwater trading positions pursuant to preexisting standard trading agreements (American International Group (AIG));⁷² (c) credit rating agencies were about to downgrade or had

70. SEC STAFF MARK-TO-MARKET REPORT, *supra* note 7, at 115 (citing Regulatory Capital: Common Stockholders' Equity, 60 Fed. Reg. 42,025, 42,027–28 (Aug. 15, 1995) (codified at 12 C.F.R. pt. 567)).

71. See *infra* text accompanying notes 81–83.

72. See *infra* text accompanying notes 84–89.

downgraded the firm (Countrywide Financial Corporation (Countrywide) and Washington Mutual Bank (Washington Mutual));⁷³ (d) regulators believed, according to their own accounting rules and independent assessment, that a firm's capital was insufficient for solvency (Federal National Mortgage Association (Fannie Mae) and Federal Home Loan Mortgage Corporation (Freddie Mac));⁷⁴ or (e) regulators believed that the company's stock was getting perilously close to zero value (Citigroup (Citi)).⁷⁵

In no case did fair value accounting rules trigger a firm's failure. In cases (a) and (b), which reflect the most dramatic and novel situations in this crisis, financial accounting numbers were not relevant at all. Financial accounting might have been marginally relevant to case (c) because credit rating agencies might have incorporated such figures into their analysis. But credit ratings reflect independent judgment⁷⁶ and are not the product of any mechanical test applied to accounting numbers.⁷⁷ Firms had the opportunity to explain to rating agencies why the accounting numbers did not represent their assets' true value.⁷⁸ Case (d) reflects a regulatory judgment about the fundamental solvency of Government Sponsored Enterprises (GSE) that should not have been based on market value assessments. Case (e) seems the closest, because accounting numbers might affect stock prices,⁷⁹ but even here there were no accounting numbers released at the relevant times. In sum, the lack of connection between the crisis's biggest flameouts and fair value financial accounting rules suggests that those rules were unlikely to be responsible for 70% of the crisis.⁸⁰ The facts of each failure are presented in greater detail below.

73. See *infra* text accompanying notes 90–94.

74. See *infra* text accompanying notes 95–97.

75. See *infra* text accompanying notes 98–100.

76. See, e.g., STANDARD & POOR'S, GUIDE TO CREDIT RATING ESSENTIALS 7 (2009), http://www2.standardandpoors.com/spf/pdf/fixedincome/SP_CreditRatingsGuide.pdf (“[B]ecause rating agencies are not directly involved in capital market transactions, they have come to be viewed by both investors and issuers as impartial, independent providers of opinions on credit risk.”).

77. *Id.* at 11 (noting that “Standard & Poor’s reviews a broad range of financial and business attributes that may influence the issuer’s prompt repayment” when forming rating opinions).

78. See STANDARD & POOR’S, STRUCTURED FINANCE COMMENTARY: THE FUNDAMENTALS OF STRUCTURED FINANCE RATINGS 1–2 (2007), http://www2.standardandpoors.com/spf/pdf/fixedincome/Fundamentals_SF_Ratings.pdf.

79. See Aigbe Akhigbe, Jeff Madura & Anna D. Martin, *Accounting Contagion: The Case of Enron*, 29 J. ECON. & FIN. 187, 200 (2005) (noting that “the deflation of a firm’s accounting numbers may cause a reduction in the firm’s stock price” and reduce competitors’ stock prices).

80. See Gingrich, *supra* note 1.

Bear Stearns and Lehman Brothers. Lehman Brothers Holdings (Lehman) had to roll over \$100 billion a month to finance its investments;⁸¹ such reliance on short term funding is endemic to investment banks. It failed when its lenders refused to accept its subprime assets to collateralize further lending.⁸² Although the details of such decisions are private, it seems unlikely in the extreme that Lehman's lenders relied on unmodified accounting numbers in making this decision—especially given that Lehman does not report those numbers frequently enough to affect the lending decision. This author is aware of no mark-to-market critic that disputes the overwhelmingly likely scenario: Lehman argued unsuccessfully to its lenders that its assets had not “really” declined in value. Accounts of the collapse of The Bear Stearns Companies (Bear Stearns) tell a similar tale,⁸³ and it seems likely that similar considerations led to Merrill Lynch & Co.'s (Merrill Lynch) agreement to sell to Bank of America and to the decisions of Goldman Sachs and Morgan Stanley to become bank holding companies.

AIG. AIG's near-demise is due in part to marking to market but not necessarily to financial accounting rules having to do with mark-to-market. Instead, it was the standard financial trading practice of requiring firms to post collateral on a mark-to-market basis that brought AIG to the brink.⁸⁴ AIG wrote protection on \$57 billion in subprime mortgage-backed assets, and the market value of this position moved radically against AIG.⁸⁵ As is standard practice for trading contracts, the parties on the other side of AIG's trades demanded collateral to back up AIG's now-existing obligations to them.⁸⁶ This had to do with the market value of positions and with credit risk mitigation provisions written into bilateral derivative contracts, not with FASB's mark-to-market rules for financial contracts.

A credit rating downgrade apparently required AIG to post \$15 billion in additional capital pursuant to its trading agreements,⁸⁷ and the credit rating agencies probably incorporated GAAP-based financial ratios into their analyses; but, as credit rating agencies have consistently asserted over the years, the credit

81. Steven D. Levitt, *Diamond and Kashyap on the Recent Financial Upheavals*, N.Y. TIMES FREAKONOMICS BLOG, Sept. 18, 2008, <http://freakonomics.blogs.nytimes.com/2008/09/18/diamond-and-kashyap-on-the-recent-financial-upheavals>.

82. *See id.*

83. *Id.*

84. *See* Michael J. de la Merced & Sharon Otterman, *A.I.G. Takes Its Session in Hot Seat*, N.Y. TIMES, Oct. 8, 2008, at B1 (noting that the former AIG chief executive “attributed A.I.G.’s \$25 billion in write-downs to mark-to-market accounting rules, which forced the company to take paper losses that led to debilitating credit downgrades”).

85. *Id.*

86. *Id.*

87. *Id.*

rating is an opinion or predictive judgment.⁸⁸ Credit rating agencies have no obligation to use any particular set of ratios or numbers to arrive at their ratings.⁸⁹ FASB and GAAP rules did not prevent the credit rating agencies from making a judgment that AIG's credit had not actually deteriorated to the point where a downgrade was warranted.

Countrywide. Amid rumors that Countrywide was on the verge of bankruptcy, Bank of America announced on January 11, 2008 that it would buy the company.⁹⁰ The immediate issues that caused Countrywide's management to sell the company reportedly were that Countrywide was at risk of losing its investment-grade credit rating, that "the eroding value of its assets might force it to break covenants with bank lenders," and that a "barrage of negative headlines about its lending practices during the boom . . . was damaging the company's reputation."⁹¹ Again, although lending covenants and rating-agency models may incorporate financial accounting numbers into their analysis, there is no reason in principle that they must do so.

Washington Mutual. In the largest bank failure in American history, the Office of Thrift Supervision seized Washington Mutual from its parent and placed it into a Federal Deposit Insurance Corporation (FDIC) receivership on September 25, 2008.⁹² This followed a nine day period in which depositors withdrew \$16 billion from the bank, around 8.5% of total deposits.⁹³ The run began on September 15, the day that Lehman filed for bankruptcy protection and that Standard & Poor's became the last of the three major credit rating agencies to downgrade Washington Mutual's credit rating from investment-grade to junk.⁹⁴

88. See, e.g., *Legislative Solutions for the Rating Agency Duopoly: Hearing Before the H. Subcomm. on Capital Markets, Insurance and Government Sponsored Enterprises of the H. Comm. on Financial Services*, 109th Cong. 16 (2005) (statement of Rita M. Bolger, Managing Director and Associate General Counsel, Standard & Poor's) ("[A]t their core, rating agencies such as [Standard & Poor's] perform the journalistic activities of gathering information on matters of public concern, analyzing that information, forming opinions about it, and broadly disseminating those opinions to the general public."); STANDARD & POOR'S, *supra* note 78, at 8 ("Ratings are merely opinions about the relative likelihood of different future events.").

89. See STANDARD & POOR'S, *supra* note 76, at 11.

90. See Graham Bowley & Gretchen Morgenson, *Bank Agrees to Buy Troubled Loan Giant for \$4 Billion*, N.Y. TIMES.COM, Jan. 11, 2008, <http://www.nytimes.com/2008/01/11/business/11cnd-bank.html>.

91. Valerie Bauerlein & James R. Hagerty, *Behind Bank of America's Big Gamble*, WALL ST. J., Jan. 12, 2008, at A1.

92. OFFICE OF THRIFT SUPERVISION, OTS FACT SHEET ON WASHINGTON MUTUAL BANK 3 (2008), <http://files.ots.treas.gov/730021.pdf> [hereinafter OTS WaMu Fact Sheet].

93. *Id.* at 1.

94. Ari Levy, *WaMu Rating Lowered to Junk by S&P on Mortgage Losses (Update4)*, BLOOMBERG.COM, Sept. 15, 2008, http://www.bloomberg.com/apps/news?pid=20601087&sid=awDjhtlfoz_Q.

Fannie Mae and Freddie Mac. Fannie Mae and Freddie Mac's regulator, the Federal Housing Finance Agency (FHFA), placed Fannie Mae and Freddie Mac into conservatorship in early September 2008 because a review had found that even though the companies had based their assertion that they were adequately capitalized on a permissible method of computing capital, the better conclusion was that their capital was not adequate to cover losses on subprime mortgage securities.⁹⁵ Although the extent of unrealized mark-to-market losses apparently influenced FHFA's judgment, there is no indication that the regulator considered FASB rules. Fannie Mae and Freddie Mac were subject to their own regulatory accounting regime that did not require fair value accounting.⁹⁶ In any event, the decision to take them into receivership was within the regulator's discretion⁹⁷ and not mandated by any particular accounting rule.

Citi. On November 23, 2008, regulators announced that the government would back \$306 billion in Citi loans and securities (with Citi responsible for the first \$29 billion of losses and 10% of losses beyond that) and invest around \$20 billion to purchase Citi preferred stock.⁹⁸ Unlike the other bailouts, the motive here appears to be explicitly to stabilize the price of Citi's stock, which had fallen 50% in the preceding week.⁹⁹ To the extent that financial accounting numbers affect investors, aided by securities analysts, it is possible that mark-to-market losses could have contributed to stock price declines. But the immediate cause of the bailout—Citi's 50% decline in the middle of November—occurred when no new accounting numbers were being reported and when the SEC's clarification of fair value accounting was in effect.¹⁰⁰ The

95. Dawn Kopecki & Alison Vekshin, *Fannie, Freddie Capital Concerns Prompt Paulson Plan (Update 1)*, BLOOMBERG.COM, Sept. 7, 2008, http://www.bloomberg.com/apps/news?pid=newsarchive&sid=at2rZoL11_sw; Levitt, *supra* note 81.

96. Jonathan Weil, *Freddie, Fannie 'Fair Values' Hardly Look Fair*, BLOOMBERG.COM, July 28, 2008, <http://www.bloomberg.com/apps/news?pid=20601039&sid=aryKxwWwjIDQ&refer=home> (explaining that GSEs' fair value balance sheets show net asset values "much lower than what the government lets them show as capital, or what the accounting rules let them report as shareholder equity").

97. See Federal Housing Enterprises Financial Safety and Soundness Act of 1992, 12 U.S.C. § 4617(a) (2000), *amended by* Housing and Economic Recovery Act of 2008, Pub. L. No. 110-289, § 1367, 122 Stat. 2654, 2734–36 (2008) (granting the FHFA Director discretion to appoint a conservator when "assets . . . are less than . . . obligations" or when a GSE is in an "unsafe or unsound condition to transact business"); FED. HOUS. FIN. AGENCY, QUESTIONS AND ANSWERS ON CONSERVATORSHIP I, <http://www.fhfa.gov/webfiles/35/fhfaconservqa.pdf> (last visited Mar. 19, 2009) (asserting that the FHFA director has discretion to appoint a conservator when a GSE is "in need of reorganization or rehabilitation of its affairs").

98. Eric Dash, *Citigroup to Halt Dividend and Curb Pay*, N.Y. TIMES, Nov. 24, 2008, at A1.

99. *Id.*

100. *Id.*

attempt to pin Citi's need for a bailout on fair value accounting seems weak at best.

III. MARK-TO-MARKET REGULATION VS. RATING-DEPENDENT REGULATION

Although fair value financial accounting does not appear to have played the role in the financial crisis that its detractors assert, the central argument offered by those detractors—that a liquidity shock could lead to waves of forced selling and a consequent death spiral—does apply in the ongoing debate over credit rating agencies. Credit ratings are incorporated into the financial regulatory system, including capital regulation.¹⁰¹ This practice has come under increasing criticism, and the most important alternative to credit ratings that has been offered is regulation based on credit spreads—a form of mark-to-market regulation. If a mark-to-market approach to capital regulation were adopted and rigidly applied, the death spiral scenario would become plausible, as the regulator would be forcing asset sales in the event of price declines.

A. *The Purpose of Capital Regulation*

Banks, defined as highly leveraged institutions that borrow with high liquidity and lend with low liquidity, have a tendency to fail,¹⁰² as centuries of experience have shown. And, since the rise of the modern credit-driven economy, waves of bank failures have caused serious macroeconomic problems.¹⁰³ This imbues bank soundness with a clear public interest. In addition, like any firm that is funded partially with equity and partially with debt, bank owners have an incentive to take excessive risks because their creditors, including depositors, bear some risk on the downside. Monitoring by depositors or other creditors may not be sufficient to address this propensity for excessive risk taking.¹⁰⁴

These issues give rise to capital regulation for banks. In its broadest outline, the purpose of capital regulation is to ensure that banks maintain a margin of

101. See *Rating the Rater: Enron and the Credit Rating Agencies: Hearing Before the S. Comm. on Governmental Affairs*, 107th Cong. 40–43 (2002) (testimony of Isaac C. Hunt Jr., Comm'r, United States Securities and Exchange Commission) (“During the past 30 years, regulators such as the [SEC] have increasingly used credit ratings as a surrogate for the measurement of risk in assessing investments held by regulated entities.”).

102. See, e.g., JONATHAN R. MACEY ET AL., *BANKING LAW AND REGULATION* 56–59 (3d ed. 2001) (outlining briefly the causes and effects of bank runs and panics).

103. See, e.g., FREDERIC S. MISHKIN, *THE ECONOMICS OF MONEY, BANKING, AND FINANCIAL MARKETS* 421–22 (8th ed. 2007) (stating that bank panics and the resulting fall in money supply was “the major contributing factor to the severity of the depression”).

104. See *id.* at 283–84.

safety—an excess of assets over liabilities—beyond that which they would maintain on their own.¹⁰⁵ In principle, this margin of safety could apply both to banks' ability to meet currently maturing obligations (liquidity) and to their maintenance of positive net worth (solvency).¹⁰⁶

Other types of financial firms that exhibit perceived problems with creditors' ability to monitor owners and management also are subject to capital regulation, even though it has not been as clear that they are as important systemically as banks. Such institutions include insurance companies¹⁰⁷ and securities broker-dealers.¹⁰⁸ Recent events suggest that certain important trading entities are “[t]oo entangled to fail.”¹⁰⁹ To the extent that regulators adopt “too entangled to fail” as a formal policy, we can expect that such institutions will become subject to bank-like regulation. Indeed, the important surviving investment banks have voluntarily embraced such regulation as the price of gaining access to stable funding.¹¹⁰ The discussion here is intended to apply to any institution that, for whatever reason, requires capital regulation.

Although the existence of a public problem does not imply as a matter of logical necessity that capital regulation is required or that capital regulation ameliorates the problems of bank failures, there is a broad political consensus that bank regulation is needed and recent events have strengthened that consensus.¹¹¹ Accordingly, I assume that capital regulation of individual

105. See MACEY ET AL., *supra* note 102, at 277–78.

106. Arguably, commercial banks' ability to borrow from the Federal Reserve obviates liquidity related capital requirements. However, recent events suggest that this does not address banks' liquidity needs. See, e.g., Avinash D. Persaud, *Regulation, Valuation and Systemic Liquidity*, BANQUE DE FR. FIN. STABILITY REV., Oct. 2008, at 75, 77, available at http://www.banque-france.fr/gb/publications/telechar/rsf/2008/etud8_1008.pdf (“The marketisation of banking has been associated with a switch in the role of the central bank from lender of last resort, to buyer of last resort.”).

107. See, e.g., CAL. INS. CODE §§ 700.01–700.05 (West 2005) (imposing capital requirements on California insurers).

108. See 17 C.F.R. § 240.15c3-1 (2008) (specifying minimum capital levels for securities broker-dealers).

109. See Dwight Jaffee & Mark Perlow, *Investment Bank Regulation After the Bear Rescue*, 18 CENT. BANKING J. 38, 40 (2008) (stating that the “most critical feature” of the Bear Stearns crisis arose from the firm’s “central role as a principal, market-maker, and dealer in the over-the-counter markets for financial derivatives”); Levitt, *supra* note 81 (“A reasonable reading of the recent bailouts suggests a simple rule: if a firm is on the verge of collapse and its ties to the financial system will lead to a cascade of chaos, the firm will be saved.”).

110. Kerry E. Grace, *Treasury Will Invest Billions in AmEx, CIT*, WALL ST. J., Dec. 24, 2008, at C2.

111. See, e.g., Press Release, Comm’n on Capital Markets Regulation, Recommendations for Reorganizing the U.S. Financial Regulatory Structure (Jan. 14, 2009), available at <http://www.capmktreg.org/pdfs/CCMR - Recommendations for Reorganizing the US Regulatory Structure.pdf> (“[T]he severity of the crisis, the scope of the regulatory failures and the antiquated,

institutions will continue, despite the important point that systemic risk caused by capital market failure may deserve a greater share of attention.¹¹² I also assume that the capital regulator will want to distinguish between assets that are likely to perform as agreed and those that are not—a point to which I will return in Part IV.

B. Rating-Dependent Capital Regulation

Three of the most important classes of entities subject to capital regulation are banks, securities brokers–dealers (including Wall Street investment banks), and insurance companies. Credit ratings are included in all three regulatory regimes, although it is easy to overstate the importance of credit ratings to regulation of the Wall Street investment banks in particular.¹¹³

The United States is in the process of making changes to its capital rules for banks to comply with an international set of standards known as Basel II. Under current plans for implementing Basel II in the United States, smaller banks will have a choice between using either the “advanced” or the “standardized” approach to capital regulation.¹¹⁴ The standardized approach incorporates credit ratings into the computation of bank capital¹¹⁵: A bank must hold more capital if its assets include \$1 million of BB-rated bonds than if its assets include \$1 million of AAA-rated bonds. The advanced approach requires banks to devise their own internal credit rating system, which a bank can use only if the bank

patchwork design of the U.S. regulatory structure have given rise to a broad consensus regarding the need for sweeping regulatory reorganization.”).

112. See Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 198–204 (2008).

113. Financial regulations other than capital regulation also depend on credit ratings. For example, SEC rules require money market funds either to mark their holdings to market or to invest only in securities with high credit ratings, References to Ratings of Nationally Recognized Statistical Rating Organizations, 73 Fed. Reg. 40,125 (proposed July 1, 2008) (to be codified at 17 C.F.R. pts. 270 & 275), and that structured-finance vehicles issue only securities with high credit ratings to the public, *Id.* at 40,127. Other rules designed to limit certain investments to safe securities, such as rules governing investments of public funds by state governments, also incorporate credit ratings. See, e.g., OHIO REV. CODE ANN. § 135.143(A)(6) (LexisNexis 2007) (stating that the treasurer of the Ohio may invest interim funds of the state in commercial paper if the “notes are rated at the time of purchase in the two highest categories by two nationally recognized rating agencies”). Such instances of rating-dependent regulation, which are not considered in depth here, present different issues from capital regulation.

114. See *A Review of Regulatory Proposals on Basel Capital and Commercial Real Estate: Hearing Before the Subcomm. on Financial Institutions and Consumer Credit of the H. Comm. on Financial Services*, 109th Cong. 11–13 (2006) (statement of Sheila C. Bair, Chairman, Federal Deposit Insurance Corporation).

115. See *id.*

satisfies regulators that its risk management system is sophisticated enough to support that approach.¹¹⁶

The capital of securities broker-dealers is regulated under SEC Rule 15c3-1.¹¹⁷ The rule requires broker-dealers to mark to market for regulatory capital purposes and further requires broker-dealers to take “charges” against their capital that depend on the credit ratings of the instruments they hold.¹¹⁸ Notably, credit ratings are not really used to measure credit risk in this regime, as the security holdings already are being marked to market, and that marking presumably reflects the market’s assessment of the credit risk of the dealer’s holdings. The credit rating appears to be used as a proxy for a specific kind of *liquidity* risk—the risk that the broker-dealer will have to accept less than the prevailing market price for the instrument if a quick sale is needed.¹¹⁹

The SEC apparently did not subject the largest investment bank holding companies (Bear Stearns, Goldman Sachs, Lehman, Merrill Lynch, and Morgan Stanley) to meaningful rating-dependent regulation from 2004–2008 even though their flagship businesses were broker-dealers. These companies were regulated under a special, voluntary SEC capital regime known as the Consolidated Supervised Entity (CSE) regime.¹²⁰ The CSE regime established separate capital requirements at the holding company and broker-dealer levels. At the holding company level, the regime required the institution to hold capital computed according to the Basel II advanced approach¹²¹—in other words, with credit risk accounted for by internal credit ratings. At the broker-dealer level, the regime allowed firms to “utilize mathematical modeling methods already

116. Credit ratings also enter—less extensively—into the determination of bank capital requirements under the existing “Basel I” approach to bank regulation, which is slated to be phased out. For example, claims against securities firms under securities lending and repurchase agreements qualify for favorable capital treatment only if the securities firm and its parent receive high credit ratings. 12 C.F.R. pt. 3 app. A § 3(a)(2)(xiii)(C)(1)–(2) (2008). The same is true of positions in asset-backed and mortgage-backed securities and for a class of bank obligations that includes guarantees and credit-derivative positions. *See id.* at pt. 3 app. A § 4(a), (d)(1)–(2). Most other claims against private entities receive the same credit risk weighting regardless of credit rating under Basel I as implemented in the United States. *See id.* at pt. 3 app. A § 3(a)(4).

117. 17 C.F.R. § 240.15c3-1 (2008).

118. *See id.*

119. Fair value accounting would not capture the effect of this risk as the rules are designed to record the price that the broker-dealer would realize in “an orderly transaction.” FAS 157, *supra* note 28, ¶ 5.

120. OFFICE OF THE INSPECTOR GEN., U.S. SEC. & EXCH. COMM’N, SEC’S OVERSIGHT OF BEAR STEARNS AND RELATED ENTITIES: THE CONSOLIDATED SUPERVISED ENTITY PROGRAM iv (2008), available at <http://www.sec-oig.gov/Reports/AuditsInspections/2008/446-a.pdf> [hereinafter CSE REPORT].

121. Alternative Net Capital Requirements for Broker-Dealers That Are Part of Consolidated Supervised Entities, 69 Fed. Reg. 34,428, 34,429 (June 21, 2004).

used to manage their own business risk”¹²² for capital computations—in other words, the regime allowed them to mark to model. Firms were also subject to rules intended to address liquidity risk.¹²³ The CSE regime incorporated credit ratings in one potentially significant respect. Firms that opted in to the regime had the option of either having capital charges for counterparty risk in credit-derivative transactions calculated based on credit ratings provided by agencies or using “internal credit ratings” if they could show that their internal risk management systems were strong enough.¹²⁴

The SEC formally abolished the CSE regime in September 2008¹²⁵ after all CSE participants regulated by the SEC¹²⁶ had failed (Lehman), been acquired by large commercial bank holding companies subject to bank capital regulatory rules administered by the Federal Reserve (Bear Stearns by JPMorgan Chase, Merrill Lynch by Bank of America), or transformed themselves into bank holding companies (Goldman Sachs, Morgan Stanley).¹²⁷ The SEC Inspector General issued a report on September 25, 2008 that criticized the capital and liquidity provisions of the CSE regime.¹²⁸ Although the SEC considered reducing its dependence on credit ratings in its rules, including its capital regulations for broker-dealers, over the past year,¹²⁹ it did not end up doing so, possibly because of a desire to leave such a policy change to the new administration.¹³⁰

122. *Id.* at 34,428.

123. See CSE REPORT, *supra* note 120, at 14–17.

124. See 17 C.F.R. § 240.15c3-1e(c)(4)(vi)(D) (2008).

125. Press Release, U.S. Sec. & Exch. Comm’n, Chairman Cox Announces End of Consolidated Supervised Entities Program (Sept. 26, 2008), *available at* <http://www.sec.gov/news/press/2008/2008-230.htm>.

126. Two firms with broker-dealer arms that took part in the CSE program, JPMorgan Chase and Citi, were not subject to SEC capital regulation because they had another principal regulator, the Federal Reserve. See CSE REPORT, *supra* note 120, at iv–v.

127. *Id.*

128. See *id.* at 10 (“Bear Stearns was compliant with the CSE program’s capital and liquidity requirements; however, its collapse raises questions about the adequacy of these requirements.”).

129. Compare References to Ratings of Nationally Recognized Statistical Rating Organizations 73 Fed. Reg. 40,088, 40,092–94, 40,104–05 (proposed July 11, 2008) (proposing elimination of reliance on credit ratings in determining broker-dealer net capital), with Press Release, U.S. Sec. & Exch. Comm’n, Fact Sheet: Final Rules and Proposed Rules Relating to Nationally Recognized Statistical Rating Organizations and Credit Ratings (Dec. 3, 2008), *available at* <http://www.sec.gov/news/press/2008/nrsrofactsheet-120308.htm> (proposing rating-agency reforms but not reforming rules reducing SEC reliance on credit ratings).

130. Kara Scannell, *SEC Looks to Limit Rating-Firm Conflicts*, WALL ST. J., Nov. 13, 2008, at C2 (stating that three new commissioners who joined the SEC after promulgation of proposed rules “have resisted quick action on the more controversial rules” because “[t]hey feel more study is needed,” and the next SEC chairman “may have other priorities”).

State insurance commissioners regulate insurance company capital under state law.¹³¹ Apparently, in this scheme, the Securities Valuation Office (SVO) of the National Association of Insurance Commissioners (NAIC) in large part discharges responsibility for credit risk.¹³² The SVO conducts its own credit evaluation for regulatory purposes on many debt securities, but it exempts from SVO filing requirements some securities that have agency ratings.¹³³ Although the NAIC has reduced its reliance on rating agencies for municipal bonds as a result of the crisis¹³⁴ and is considering formation of its own rating agency,¹³⁵ capital regulation of insurers continues to be rating-dependent.

C. Mark-to-Market Regulation Is the Leading Alternative to Rating-Based Regulation

Academics have been arguing for a long time that incorporation of credit ratings into the regulatory system has a bad effect on rating quality and that regulators should stop relying on credit ratings. Frank Partnoy has been a leading proponent of this view.¹³⁶ Now that poor rating quality is being widely blamed—at least in part—for the worldwide credit crisis and associated

131. For an early discussion of rating-dependent regulation of insurance, see generally Partnoy, *supra* note 12, at 700–01 (examining rating-dependent regulation of insurance companies).

132. The NAIC is the “organization of insurance regulators from the 50 states, the District of Columbia and the five U.S. territories.” About the NAIC, http://www.naic.org/index_about.htm (last visited Mar. 19, 2009). The SVO describes itself as “responsible for the day-to-day credit quality assessment and valuation of securities owned by state regulated insurance companies.” NAIC Securities Valuation, <http://www.naic.org/svo.htm> (last visited Feb. 15, 2009).

133. NAT’L ASS’N OF INS. COMM’RS, UNDERSTANDING THE NAIC FILING EXEMPTION (FE) RULE 1 (2004), http://www.naic.org/documents/svo_FE_FAQ.pdf.

134. See Press Release, Nat’l Ass’n of Ins. Comm’rs, Rating Reform Benefits Bond Market (June 1, 2008), *available at* http://www.naic.org/Releases/2008_docs/rating_reform_benefits_bond_market.htm (reporting the NAIC’s decision, in response to municipal bond insurer downgrades, to permit the SVO to give municipal bonds higher ratings than those awarded by rating agencies).

135. See Sam Friedman, *Why Shouldn’t the NAIC Form Its Own Rating Agency?*, A VIEW FROM THE PRESS BOX, Oct. 27, 2008, http://property-casualty.com/2008/10/why_shouldnt_the_naic_form_its.html.

136. See, e.g., Frank Partnoy, *Second-Order Benefits from Standards*, 48 B.C. L. REV. 169, 181 (2007) (“[T]he government’s decision to delegate the certification of products removes some of the reputational constraints on the certification business. The assessing company need not worry excessively about its reputation and, consequently, may give certifications to lower quality products”); Partnoy, *supra* note 12, at 622–23 (stating that the “paradox” of “continuing prosperity of credit rating agencies in the face of declining informational value of ratings” is “best explained by the practice of linking substantive securities regulation to private credit ratings”).

recession,¹³⁷ the idea that rating-dependent regulation corrupts rating quality has gained traction and many others are taking the same position.¹³⁸

It may well be the case that incorporation of credit ratings into financial regulation harms credit rating quality by artificially propping up demand for agency ratings and that disentangling the two would lead to higher quality ratings. But doing so would also leave capital regulators looking for a way to measure credit risk. A regulator presumably wants to treat a bank's holding of \$1 million face value relatively safe assets such as Treasury bonds differently from the bank's holding of \$1 million in high-yield, or "junk," bonds. Rating-dependent regulation is one way of accomplishing this. The leading alternative suggestion is Partnoy's—that credit spreads should replace ratings.¹³⁹

137. See, e.g., THE PRESIDENT'S WORKING GROUP ON FIN. MATTERS, POLICY STATEMENT ON FINANCIAL MARKET DEVELOPMENTS 1 (2008), http://www.ustreas.gov/press/releases/reports/pwgpolicystatemktturmoil_03122008.pdf (stating that "flaws in credit rating agencies' assessments of . . . complex structured credit products" were a "principal underlying cause[] of the turmoil in financial markets"); TECH. COMM. OF THE INT'L ORG. OF SEC. COMM'NS, THE ROLE OF CREDIT RATING AGENCIES IN STRUCTURED FINANCE MARKETS 2 (2008), <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD270.pdf> ("CRAs and their [credit] ratings played a critical role in the recent market turmoil."); FIN. STABILITY FORUM, REPORT OF THE FINANCIAL STABILITY FORUM ON ENHANCING MARKET AND INSTITUTIONAL RESILIENCE 32 (2008), http://www.fsforum.org/publications/r_0804.pdf ("Poor credit assessments by CRAs contributed both to the build up to and the unfolding of recent events.").

138. See, e.g., Robert Rosenkranz, *Let's Write the Rating Agencies out of Our Law*, WALL ST. J., Jan. 2, 2009, at A15; *Taming the Beast: How Far Should Finance Be Re-Regulated?*, ECONOMIST, Oct. 11, 2008, at 6, 14 (stating that the "popular suggestion[]" to reform rating agencies "will not yield much" because "the problem with credit-rating agencies lies in the tension between their business model and their use as a regulatory tool"); FER STATEMENT, *supra* note 17, at 10 ("The [Financial Economists Roundtable] strongly endorses eliminating from SEC regulations every prescriptive mandate that is or would be based solely on credit ratings . . ."); Jesse Westbrook & Mark Pittman, *SEC May Curb Credit-Rating Conflicts, Delay New Mortgage Grades*, BLOOMBERG.COM, Dec. 2, 2008, <http://www.bloomberg.com/apps/news?pid=20601087&sid=atBFiDUPLir0&refer=home> (quoting Christopher Whalen of Institutional Risk Analytics: "The SEC and Congress need to strip out of the federal statute every instance where a pension fund or a bank is compelled to use ratings" (internal quotation marks omitted)).

139. Partnoy, *supra* note 12, at 704. A group of academic experts on financial regulation called the Shadow Financial Regulatory Committee made a similar point about the initial proposal for the Basel II Accord in February 2001, arguing that "[a]lthough the task of computing the correct economic capital for a bank is very difficult and complex, bank capital regulation need not be." SHADOW FIN. REG. COMM., STATEMENT OF THE SHADOW FINANCIAL REGULATORY COMMITTEE ON THE BASEL COMMITTEE'S REVISED CAPITAL ACCORD PROPOSAL (2001), [http://fic.wharton.upenn.edu/fic/Policy_page/20051114_ShadowStatement169\[1\].pdf](http://fic.wharton.upenn.edu/fic/Policy_page/20051114_ShadowStatement169[1].pdf). It asserted that a "[b]etter [a]pproach" than Basel II's complex computations would simply be to require banks to "back their assets with a certain minimum percentage of long-term uninsured subordinated debt," and noted that "[t]he yields on such debt would signal to banks how much risk the market is willing to tolerate, and to regulators when to intervene and prevent banks from taking additional risks." *Id.*

Credit spreads are inferred from market prices,¹⁴⁰ so regulation based on credit spreads is in effect the same as regulation based on market prices. In short, it is a form of mark-to-market regulation.

D. Problems with Mark-to-Market Credit Risk Regulation

The main theoretical weakness of mark-to-market regulation of credit risk is that prices are not, in principle, a measure of pure credit risk. Market prices for credit-risky instruments do not depend just on credit risk. They also depend on factors such as supply and demand, liquidity, and risk aversion.¹⁴¹ For example, if prospects for the automotive industry improve, investors may buy auto bonds and sell tech bonds, even if tech bonds' likelihood of repayment have not changed. Spreads over the risk-free benchmark for automotive bonds will tighten and spreads for tech bonds will widen despite the absence of any change in the actual risk of repayment.

Liquidity refers to the ease with which an asset can be transformed into cash in the market, and it can affect prices and credit spreads. If for some reason buyers do not have funds to buy bonds, prices will drop even though there is no change in the likelihood of repayment.¹⁴² Indeed, the plurality view among

140. A credit spread is the incremental yield over the risk-free rate that a credit-risky instrument offers. *See* Partnoy, *supra* note 12, at 655. For example, if a Treasury bond (assumed to be risk-free) is trading at a 3% yield and a corporate bond that is identical except for its credit risk is trading at a 5% yield, the credit spread for the bond is 2%. Spreads can be problematic as measures of credit risk for technical bond-math reasons that I ignore, but the important point is that because they are defined relative to the risk-free interest rate, they do not change with changes in the risk-free rate. Changes in the risk-free rate will affect the market price of almost any nonfloating credit-risky instrument, but they will not affect credit spreads. The discussion that follows, which equates credit spreads and market prices, should be read as qualified by this assertion.

141. The idea that market prices reflect the interaction of various objective, discrete risks with market participants' subjective risk aversion finds support in the risk management and financial economics literature. *See, e.g.,* PHILIPPE JORION, *VALUE AT RISK: THE NEW BENCHMARK FOR CONTROLLING MARKET RISK* 333–56, 453–90 (3d ed. 2007) (explaining how recent developments adapt traditional value at risk measures to liquidity risk and credit risk). Practitioners tend to phrase the point in terms of liquidity and supply and demand rather than risk aversion. Risk aversion here is used broadly to include “uncertainty aversion”—greater aversion to poorly understood risks than to well understood ones. *See* Ricardo J. Caballero & Arvind Krishnamurthy, *Collective Risk Management in a Flight to Quality Episode*, 63 J. FIN. 2195, 2196–97 & n.3 (2008).

142. *See, e.g.,* Franklin Allen & Elena Carletti, *Should Financial Institutions Mark-to-Market?*, BANQUE DE FR. FIN. STABILITY REV., Oct. 2008, at 1, 3, *available at* http://www.banque-france.fr/gb/publications/telechar/rsf/2008/etud1_1008.pdf (“[I]n times of financial crisis the interaction of institutions and markets can lead to situations where prices in markets do not reflect future payoffs but rather reflect the amount of cash or liquidity available to buyers in the market.”).

commentators on the 2007–2008 crisis seems to be that liquidity issues contributed to the dramatic drop in prices for credit-based instruments.¹⁴³

Finally, prices can change due to changes in risk aversion. If investors as a group decide that they prefer to hold less risky assets, the prices for risky assets will drop and the prices for safe assets will rise, even if the risky assets have not become riskier. This phenomenon, sometimes called a “flight to quality,” shows up frequently in financial crises, and observers have used changes in risk aversion to explain the increase in prices of U.S. Treasuries and the dollar during the current crisis,¹⁴⁴ as well as the price spike of U.S. Treasuries in 1998 that famously doomed Long-Term Capital Management.¹⁴⁵

Decreasing market liquidity and an increase in risk aversion¹⁴⁶ are widely viewed as important factors, along with increasing awareness of credit risk, in the precipitous decline in market prices for almost all credit-risky instruments over the course of 2007–2008. Disaggregating these components is not a trivial exercise—indeed, the feasibility of doing so was a central aspect of the debate over the Troubled Asset Relief Program (TARP)¹⁴⁷—and that suggests that it is highly problematic to rely in any simple way on credit spreads for capital regulation.

One might argue that all these considerations usually are not very important and that credit spreads usually are the best measure of credit risk. But even if this is true, recent experience teaches us that we will find ourselves in situations where there are significant changes in the latter two factors so that market prices will not be good guides to the value of held-to-maturity investments. If the system is going to incorporate pure credit risk, someone needs to translate market prices to credit risk assessments. Credit rating agencies may well be the institutions best situated for that role.

143. See, e.g., Steven L. Schwarcz, *Understanding the Subprime Financial Crisis*, 60 S.C. L. REV. 549, 564 (arguing that the current crisis demonstrates the need for a “market liquidity provider of last resort”).

144. See, e.g., David Rodriguez, *U.S. Treasury Bill Rates Drop to Lowest Since 1954*, DAILYFX, Sept. 17, 2008, http://www.dailyfx.com/story/topheadline/Extraordinary_Market_Conditions_Dries_up_1221664762744.html (“Dramatic declines in [United States Treasury] yields underline the level of risk aversion in global financial markets, as traders around the world move their funds into risk-free [United States] government debt. Such dynamics should continue to support lower-yielding currencies such as the Japanese Yen, which likewise appreciates during times of financial market risk aversion.”).

145. See Caballero & Krishnamurthy, *supra* note 141, at 2196–97.

146. E.g., Wallison, *supra* note 2, at 3–4 (“[C]ontinued withdrawal of financing sources has compelled the holders of [asset-backed securities] to sell them at distressed or liquidation prices, even though the underlying cash flows of these portfolios have not necessarily been seriously diminished.”).

147. See Emergency Economic Stabilization Act of 2008, Pub. L. No. 110–343, § 101, 122 Stat. 3765, 3767 (to be codified at 12 U.S.C. § 5211) (establishing the TARP).

E. Alternatives to Rating-Dependent Regulation Other Than Mark-to-Market in an Asset-by-Asset Regime

Assuming the market provides a poor basis for credit risk regulation and that credit risk regulation is needed does not imply that third party credit rating agencies should perform the function. For regulatory purposes either the government itself or regulated parties could assess credit risk.

Some parties have been recommending for some time that the government itself make the credit risk assessments needed for regulation.¹⁴⁸ One's reaction to this suggestion is likely to be heavily colored by one's ideological predisposition. But there does not seem to be much momentum in this direction currently, perhaps because replicating the credit rating agencies' role is a major undertaking.¹⁴⁹ In any event, the continued reliance on credit ratings in purely private contexts, such as in trading agreements after the Enron scandals, reflects market participants' view that private rating agencies have something to offer, even if their work is flawed.

The Basel II agreement's "advanced" approach, which is now effective for large banks in the United States, actually incorporates the second idea—credit assessment by regulated parties—into the financial regulatory system.¹⁵⁰ Even though regulators ultimately oversee the private parties' rating process,¹⁵¹ this approach seems to present an obvious conflict of interest and calls into question the reason for regulating capital in the first place.¹⁵²

In an asset-by-asset risk management regime—a regime in which a firm's exposure to credit risk is assessed by aggregating the credit risk of the assets it owns—some measure of assets' pure credit risk is needed, and unadjusted market prices cannot provide that. Even as the crisis has laid bare the deficiencies of credit ratings in practice, it has underscored the importance of well-functioning rating in theory.

148. See, e.g., Lawrence J. White, *The Credit Rating Industry: An Industrial Organization Analysis*, in RATINGS, RATING AGENCIES AND THE GLOBAL FINANCIAL SYSTEM 41, 41–42, 51–57 (Richard M. Levich et al. eds., 2002) (discussing the need for governmental regulatory bodies to more actively participate in the credit risk assessment process).

149. For example, the SEC recently reported that Standard & Poor's maintains nearly 1.25 million credit ratings. See U.S. SEC. & EXCH. COMM., ANNUAL REPORT ON NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS 35 (2008), available at <http://www.sec.gov/divisions/marketreg/ratingagency/nrsroannrep0608.pdf>.

150. See 12 C.F.R. pt. 3 app. C (2008).

151. See *id.*

152. Cf. Paul Kupiec, *Using a Mandatory Subordinated Debt Issuance Requirement to Set Regulatory Capital Requirements for Bank Credit Risks*, in CAPITAL ADEQUACY BEYOND BASEL: BANKING, SECURITIES, AND INSURANCE 146, 146–48 (Hal S. Scott ed., 2005) (explaining that an internal ratings approach does not confront the moral hazard incentive created when banks enjoy a government safety net).

IV. THE BIGGER PICTURE: SHOULD WE HAVE AN ASSET-BY-ASSET CREDIT RISK BASED CAPITAL REGULATION REGIME?

A. Should Asset-by-Asset Capital Regulation Incorporate Pure Credit Risk?

We can call a capital regulatory regime that measures an institution's capital by adding up its assets (with appropriate adjustments for credit risk) and subtracting its liabilities an "asset-by-asset" regime. There are alternatives, as discussed below, but existing capital regulatory regimes known to this author work on an asset-by-asset basis. In such a regime, whether an entity should account for assets at current market value (fair value) or on some other basis seems to depend on the nature of the regulated entity. Specifically, it depends on whether the entity's business is likely to require it to liquidate securities holdings to stay afloat.

A life insurance company or pension fund with the ability and intent to hold a bond portfolio to maturity to satisfy claims in the distant future is not going to be impaired by a short-term liquidity-driven drop in the bonds' market value¹⁵³ and should not be forced to inject capital because of such an event. If the bonds' value drops because they become less likely to be repaid, then injecting more capital would be appropriate. The distinction between credit risk and liquidity risk is important in this situation; it makes sense to consider the assets' credit risk in isolation.

The situation is different for a broker-dealer whose business is to hold a portfolio of securities for sale using a high degree of leverage, with financing collateralized by the securities themselves. In that case, a decline in price due to market conditions is highly relevant to the firm's ability to meet its obligations. The regulatory regime should reflect the exposure to short-term market fluctuations inherent in the firm's business model, and the firm should react to them.

Thus, mark-to-market accounting is appropriate for assets that are exposed to funding liquidity risk; that is, assets that an entity may have to sell or pledge as collateral to meet funding requirements.¹⁵⁴ But for assets that an entity does

153. For example, the International Association of Insurance Supervisors reported that in the wake of the liquidity crunch of 2007, reinsurers' exposure was low because assets experiencing these problems totaled no more than 1% of their portfolios. See NAT'L ASS'N INS. SUPERVISORS, GLOBAL REINSURANCE MARKET REPORT 43 (2007), http://www.iaisweb.org/_temp/Global_Reinsurance_Market_Report_2007.pdf.

154. See, e.g., Persaud, *supra* note 106 ("One of the key lessons of the crisis is that a critical factor in systemic risks is funding liquidity. When the system freezes, those with short-term funding topple over. Those with long-term funding are the system's stabilisers. They are risk

not have to sell, market price measures a number of less relevant factors, such as liquidity risk, and mark-to-market regulation is problematic.¹⁵⁵

B. Should We Drop Asset-by-Asset Capital Regulation?

Asset-by-asset regulation may not be the best way of setting capital requirements. The FER recently suggested an alternative in the course of issuing a sweeping denunciation of the incorporation of credit ratings into bank regulation. The FER stated that it is “particularly important for banking regulators to reconsider their reliance on ratings decisions”¹⁵⁶ because ratings exist on an asset-by-asset level and say nothing about how assets interact:

[R]atings may be useful for establishing loss reserves for particular assets, but they say nothing about how a bank’s net worth or its portfolio of assets may vary in value. The amount of capital that must be set aside to achieve a particular target level of safety has to be linked explicitly to measures of the volatility of [the bank’s] earnings, not asset ratings.¹⁵⁷

Using “earnings” as the touchstone, of course, merely displaces the problem onto the definition of earnings. If earnings is defined so that fluctuations in the prices of the assets owned by the bank directly flow through to earnings, then the bank’s capital requirement will fluctuate because of irrelevant factors such as liquidity problems in markets for assets that the bank is unlikely to have to sell, as explained above.¹⁵⁸

This argument implies that credit ratings are incomplete, not necessarily that they are useless.¹⁵⁹ The basic point is that credit ratings, when incorporated

absorbers. However, by using common mark-to-market accounting, valuation and risk rules we do not make any distinctions between those with a funding liquidity issue and those without.”).

155. *Id.* at 77–78.

156. FER STATEMENT, *supra* note 17, at 12.

157. *Id.* at 13.

158. See discussion *supra* Part III.D.

159. The same point applies to the Roundtable’s argument that credit ratings “convey no information about the volatility of an asset’s return around expected loss experience,” which makes them unsuitable for setting capital requirements because such requirements “are intended to provide a buffer against unexpected risks”—expected losses, the ones to which agency ratings might provide a clue, are the province of “loss reserves.” FER STATEMENT, *supra* note 17, at 12–13. This objection at most identifies a limitation on the agencies’ existing methods for performing credit risk analysis. It does not imply that regulators should disregard credit risk or that an entity other than a specialized private third party entity should analyze it. There is no reason, in principle, to suppose that credit rating agencies could not attempt to provide loss distribution information. Moreover, mark-to-market regulation is not necessarily an improvement. Market prices for assets

into asset-by-asset regulation, do not take into account the interactions (correlations) among the fluctuations in value of a firm's various assets and liabilities, hence the reference to "portfolios." Information about the risk of individual credits can be incorporated into an interaction model; indeed, there is a highly developed discipline of portfolio construction that is designed to do just that.¹⁶⁰ To the extent that earnings are derived from fluctuations in market prices, the fact that market prices for assets fluctuate for market factors having nothing to do with the likelihood that obligations will be repaid is a problem.

Despite the fact that setting capital requirements based on the earnings volatility of the firm as a whole presents many difficulties, it is worth exploring. Given that this approach would be a radical change in the way capital calculations are done, there is a strong reason to believe that it will not come into effect for many years. In the interim, it is worth trying to improve the performance of the system we have.

V. CONCLUSION

In a capital regulation system for financial firms that generally resembles our current one (where risk is determined on an asset-by-asset basis), there is a good case for incorporating a pure measure of credit risk into the regulatory regime. Recent events have not shown that we should get rid of mark-to-market accounting, but they have highlighted the fact that market prices reflect factors other than credit risk so that using them as a pure measure of credit risk is problematic. It is worthwhile to consider alternatives to asset-by-asset regulation; however, the alternatives have their own problems. In the meantime, financial regulation should incorporate the function that credit rating agencies are supposed to perform, and there is at least a decent case that independent

at a given time do not in themselves provide any estimate—with or without information about volatility—of pure credit losses. *See* discussion *supra* Part III.D. One could try to extract volatility information from a historical time series, but that assumes that past experience forecasts the future, a dangerous assumption in a crisis. Although derivative prices may in theory provide evidence of the market's expectations for volatility, *see* SALIH N. NEFTCI, *PRINCIPLES OF FINANCIAL ENGINEERING* 429 (2004), efforts to extract volatility information from market prices depend heavily on theoretical assumptions and are vulnerable to market disruptions and technical factors, *see id.* at 431. For example, one cannot simply extract a single market estimate of volatility from option prices using the Black–Scholes model, because market prices and the model usually imply several different values for a given firm's stock at any given time. *See id.* at 435 (“[O]ptions that are identical in every respect, except for their strike, in general have *different* implied volatilities.”).

160. RICHARD C. GRINOLD & RONALD N. KAHN, *ACTIVE PORTFOLIO MANAGEMENT: A QUANTITATIVE APPROACH FOR PROVIDING SUPERIOR RETURNS AND CONTROLLING RISK* 194–97 (2d ed. 2000) (detailing the process for constructing “factor models” of asset risk and combining them with beliefs about asset returns to build optimal portfolios).

third party agencies should perform the function. The attention that regulators and scholars are now paying to rating agency performance is warranted.